ABSTRACT OF THE DISCLOSURE

A method for generating a grayscale representation for a display combines analog and digital techniques to produce images of optimal quality. The grayscale representation is not limited by frame frequency compared to digital techniques and not limited by small voltage differences between pixel electrodes. In the method, a frame is first divided into sub-frames of most significant bits and least significant bits. The sub-frame time can either be weighted or uniform. An analog voltage is then applied to the sub-frames to produce a reduced grayscale. The number of sub-frames and the brightness are two parameters that can be optimized for a best possible display result.